



NEWSLETTER OF THE LONDON CHAPTER,  
ONTARIO ARCHAEOLOGICAL SOCIETY

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February 1997

97-2

## **“DRINK DEEP OR TASTE NOT THE PIERIAN SPRING”: MUSINGS ON ENVIRONMENTAL ARCHAEOLOGY IN SOUTHERN ONTARIO**

Robert MacDonald, Archaeological Services Inc.  
Thursday, March 13th, 8:00 PM  
London Museum of Archaeology

For our March speaker night we are pleased to present Rob MacDonald of Archaeological Services Inc., Kitchener Office. Rob will be speaking on his research in environmental archaeology in southern Ontario. The meeting will be held at **THE LONDON MUSEUM OF ARCHAEOLOGY**, 1600 Attawandaron Road (near the corner of Wonderland and Fanshawe Park Road in the northwest end of the city) at 8 PM.

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Next month (April 10th) our featured speaker will be Jeff Muir of the Department of Anthropology at Trent University. Jeff's talk is entitled “The Faunal Remains of the Praying Mantis Longhouses”.

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#### **ANNUAL RATES**

|                    |         |
|--------------------|---------|
| Individual.....    | \$15.00 |
| Family.....        | \$18.00 |
| Institutional..... | \$21.00 |
| Subscriber.....    | \$17.00 |

## EXECUTIVE REPORT

Visit us on the Internet! The London Chapter Home Page is up and running at <http://yoda.ssc1.uwo.ca:80/assoc/oas/lonoas.html> ("bookmark" this when you get there so you don't ever have to type it again!). The page includes information on Chapter publications, upcoming meetings, and projectile point types previously published in **KEWA**. The Executive thanks Jim Keron and Len Fluhrer for all their work in developing the home page.

To facilitate electronic communication among Chapter members we would like to publish a list of e-mail addresses in an upcoming issue. To have your e-mail address included in this list, please forward it to the Chapter Executive (by snail mail), or e-mail it to Peter Timmins at [ptimmins@julian.uwo.ca](mailto:ptimmins@julian.uwo.ca).

## SOCIAL REPORT

It's hard to believe, but **KEWA** is celebrating its 20<sup>th</sup> anniversary this month! To honour this auspicious occasion, the Chapter will be holding a CELEBRATION at the March speaker night, complete with CAKE and other goodies! So be sure to come out to the London Museum of Archaeology on Thursday, March 13, and join the celebration.

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The membership of the London Chapter was shocked and saddened at news of the untimely death of Ian Kenyon last month. Ian was a long-time Chapter member who made an enormous contribution to Ontario archaeology, to the education of other archaeologists, and to the profession in general. He will be remembered as one of the most creative archaeological thinkers we have known. The Chapter Executive is planning a memorial to Ian to be published in an upcoming issue of **KEWA**. Chapter Members are invited to write a couple of paragraphs about Ian and submit them to the Executive for inclusion in this issue.

There will also be a gathering in Toronto to share memories of Ian and celebrate his life and work. This will be held on March 18, 1997, from 5 to 7 p.m. at the Ontario Heritage Centre, 10 Adelaide Street East, Toronto. Please RSVP by March 17th to Dena Doroszenko at 416-325-5038.

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## EDITOR'S REPORT

For this month's article we take you back to the Grand River valley for another look at the intriguing Johnson Flats site, initially reported by Bud Parker in **KEWA** 95-1. Johnson Flats is one of several large, stratified, multi-component sites located on the floodplain of the Grand. These complex sites challenge our ability to recognize distinct occupational events and are always difficult to interpret. In this article, Bud grapples with these problems and comes up with some important insights into the several occupations represented at Johnson Flats.

# JOHNSON FLATS REVISITED

L.R. Bud Parker

## Introduction

The Johnson Flats site (AgGx-214) is a stratified, multi-component (Archaic and Woodland period) site located on the Grand River floodplain near Caledonia in the Regional Municipality of Haldimand-Norfolk (Figure 1). The site was discovered in 1994 and a portion of it was excavated that year prior to pipeline installation scheduled for 1995 (ARA 1994a; 1994b; Parker 1995). In the spring of 1995 another portion was excavated to further mitigate against the impacts of natural gas pipeline installation (ARA 1995). The results of the initial excavations at Johnson Flats were described in KEWA 95-1 (Parker 1995). This article reports on the new data recovered in the latest excavations and reveals new insights into this important site.

The site is interesting because alluvial deposits have capped the cultural strata beneath a layer of mostly sterile silty loam (Parker 1995:10). The Johnson Flats site is probably one of hundreds of stratified sites similarly preserved by varying thicknesses of recent silt (Smith and Crawford 1994).

In the spring of 1995, Union Gas Limited began to prepare for the pipeline crossing of the Grand River at Johnson Flats. The writer was asked to personally delineate the extent of the 1994 mitigative excavations. Upon arrival at the site it soon became apparent that the 1994 excavations had been set against a fence which was a little "off" the real property line. After the Union Gas engineer uttered a discouraging word, Archaeological Research Associates Ltd. (ARA) was retained to excavate more of this significant site (ARA 1995). This report summarizes the results of the 1995 excavations and integrates them with the results obtained in 1994.

## Methodology

The cultural deposits at the site lie undisturbed beneath up to 50 cm of relatively recent, plough-disturbed silt. This culturally sterile layer was mechanically removed to a depth of 30 cm below the surface. At this depth the 1994 grid was superimposed over the site and an additional 60 one-metre units were excavated, by hand, to sterile subsoil. The positions of all cultural materials were plotted (i.e. ecofacts, artifacts, features) and objects were bagged according to level. Level 1 (upper level) is a stratum consisting of dark brown, charcoal-rich silt, while Level 2 is lighter in colour, contains more clay and has no charcoal. Level 1 is located between 30 cm and 50 cm below the surface, while Level 2 is found between 50 cm and 70+ cm below surface. The site stratigraphy is illustrated in detail in Parker (1995:10).

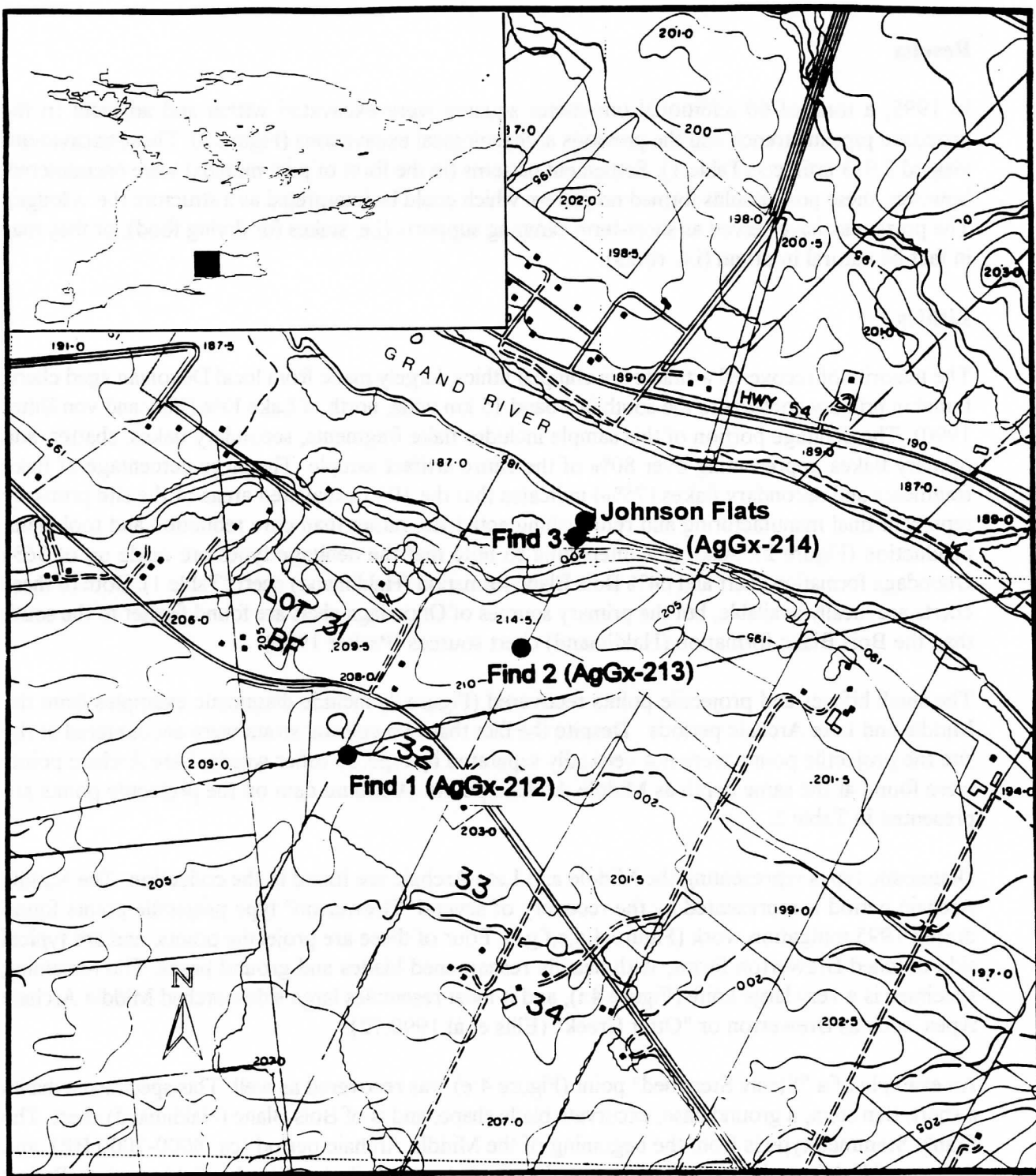


Figure 1. Location of the Johnson Flats Site

## Results

In 1995, a total of 60 additional one-meter squares were excavated within and adjacent to the proposed pipeline trench and the previous archaeological excavations (Figure 2). These excavations yielded 2,913 artifacts (Table 1). Settlement patterns (in the form of post moulds) were encountered, however, these post moulds formed no pattern which could be interpreted as a structure (i.e. a lodge). The posts may have served as short-term camping supports (i.e. stakes for drying food), or they may in fact be natural in origin (i.e. roots).

## Lithics

The majority of recovered artifacts are chipped lithics, largely made from local Devonian aged cherts found in primary contexts to the south in a band 15 km wide, north of Lake Erie (Eley and von Bitter 1990). The debitage portion of this sample includes flake fragments, secondary flakes, shatter, and primary flakes, representing over 80% of the entire artifact sample. The large percentage of flake fragments and secondary flakes (75%) indicates that the 1995 excavated areas of the site primarily represent final manufacturing and refurbishing activities, rather than core reduction and tool blank production (Figure 2). Also, it is interesting to note that the debitage types are made up of 36% Onondaga formation chert and 64% Bois Blanc formation (Haldimand) chert (Table 1). Both of these cherts are locally available, but the primary sources of Onondaga chert are found farther to the south than the Bois Blanc formation (Haldimand) chert sources (Parker 1986).

The small bifaces and projectile points recovered (Figure 3) include diagnostic examples from the Middle and Late Archaic periods. Despite the fact that two cultural strata were encountered at the site the projectile points were not vertically separated by type. In other words, Late Archaic points were found at the same depth as Middle Archaic points. Attribute data on the projectile points are presented in Table 2.

Diagnostic types representing the Middle and Late Archaic are found in the collection. The Middle Archaic period is represented by the recovery of several "Brewerton" type projectile points found during 1995 mitigation work (Figure 4:a,c,f,g,i). Four of these are projectile points, and are typical side-notched Brewerton forms, with heavily resharpened blades and ground bases. The remaining specimen is a very large knife (Figure 4:i), and it most resembles large side-notched Middle Archaic types, such as Brewerton or "Otter Creek" (Ellis et al 1990:72).

An example of a "Stanly Stemmed" point (Figure 4:e) was recovered as well. This specimen exhibits a short, thin stem, a ground base, excruciate blade shape, and is of Bois Blanc (Haldimand) chert. The Stanly Stemmed type is from the beginning of the Middle Archaic period (ca. 8000-7000 BP), and the use of Haldimand chert has been noted as a common attribute of tools of this period (Parker 1986).

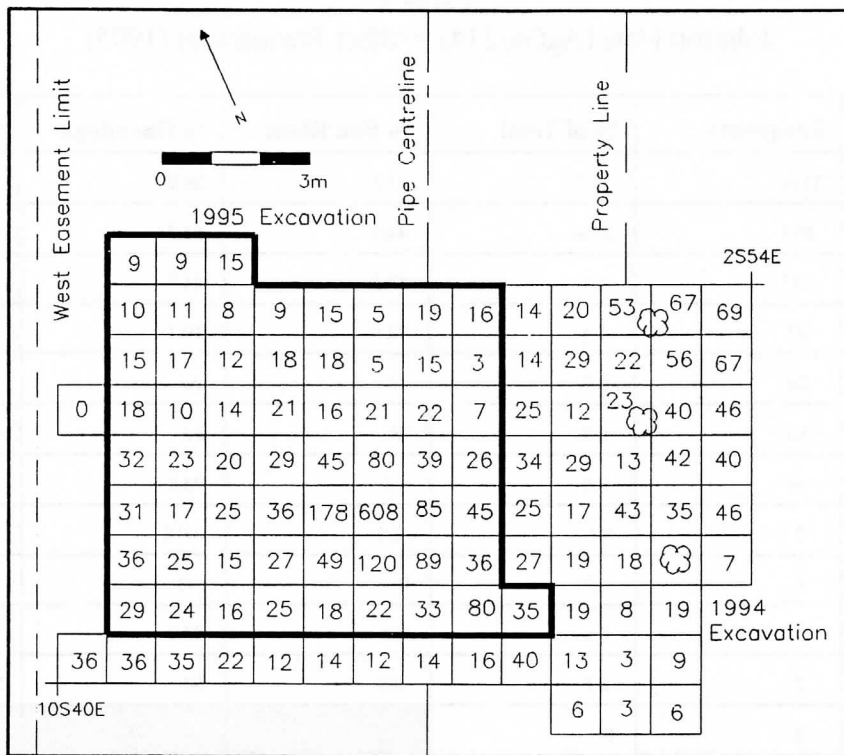


Figure 2. Excavations at AgGx-214: Debitage Frequencies

A "Narrow Point" type was found as well (Figure 4:b). This example is similar to the "Lamoka" type, but it has a well-finished base more like a "Normanskill" type; both of these types date to ca. 4000 BP (Ellis et al 1990:97).

Two large diagnostic "broadpoints" were recovered during the mitigation work (Figure 4:h,j). The "broadpoint" type is from the Late Archaic period (ca. 3500 BP), and these are of the "Genesee" type, and probably used as knives.

Other bifaces recovered include a large rejected tool blank (Figure 4:m) of Onondaga chert, measuring 71x50x32mm. This was likely discarded because of its extreme thickness. Preforms were also recovered (Figure 4:d,l), which were probably destined to be points or similar bifacial tools.

Two bifacial drills were recovered during the 1995 work at the site (Figure 5:a,b). Both are complete, and are of the "T-based" type. The smaller of the two, measuring 29x17x5mm, is of Onondaga chert, has a convex base (9mm high), and a 20x9mm drill bit. The larger one, measuring 59x33x7mm, has a straight base (12mm high), a 47x10mm bit, and is of Selkirk chert. T-base drills were common throughout the Late Archaic, and the Early and Middle Woodland periods (Ellis et al 1990; Spence et al 1990).

**Table 1**  
**Johnson Flats (AgGx-214) Artifact Frequencies (1995)**

| <b>Artifact type</b>    | <b>Frequency</b> | <b>% of Total</b> | <b>% Bois Blanc</b> | <b>% Onondaga</b> | <b>% Other chert</b> |
|-------------------------|------------------|-------------------|---------------------|-------------------|----------------------|
| Flake fragments         | 1316             | 45.2              | 73.3                | 26.8              | 0.0                  |
| Secondary flakes        | 861              | 29.6              | 44.7                | 55.3              | 0.0                  |
| Shatter                 | 127              | 4.4               | 57.5                | 41.7              | 0.8                  |
| Primary flakes          | 42               | 1.4               | 78.6                | 19.1              | 0.8                  |
| Utilized flakes         | 20               | 0.7               | 10                  | 90                | 0.0                  |
| Projectile points       | 10               | 0.3               | 20                  | 80                | 0                    |
| Bifaces                 | 16               | 0.5               | 6.3                 | 93.8              | 0.0                  |
| Wedges                  | 2                | 0.1               | 0.0                 | 100.0             | 0.0                  |
| End scrapers            | 6                | 0.2               | 0                   | 100               | 0.0                  |
| Cores                   | 3                | 0.1               | 6.7                 | 33.3              | 0.0                  |
| Drills                  | 2                | 0.1               | 0.0                 | 50                | 50                   |
| Hammerstones            | 2                | 0.1               |                     |                   |                      |
| Grinders                | 2                | 0.1               |                     |                   |                      |
| Undecorated body sherds | 224              | 7.7               |                     |                   |                      |
| Decorated body sherds   | 6                | 0.2               |                     |                   |                      |
| Calcined bone           | 184              | 6.3               |                     |                   |                      |
| Large mammal bone       | 25               | 0.9               |                     |                   |                      |
| Small mammal bone       | 52               | 1.8               |                     |                   |                      |
| Bird bone               | 1                | <0.1              |                     |                   |                      |
| Reptile/amphibian bone  | 0                | 0                 |                     |                   |                      |
| Deer teeth              | 25               | 1.0               |                     |                   |                      |
| Fire-cracked rock       | 3                | 0.1               |                     |                   |                      |
| Charcoal                | 0                | 0                 |                     |                   |                      |
| Floral remains          | 2                | 0.1               |                     |                   |                      |
| Historic bullet         | 1                | <0.1              |                     |                   |                      |
| <b>Total</b>            | <b>2913</b>      | <b>100</b>        | <b>---</b>          | <b>---</b>        | <b>---</b>           |

**Table 2**  
**Johnson Flats (AgGx-214) Projectile Points (mm) (1995)**

| Cat# | BS  | BSS | RM | L   | BL  | BW  | IW  | SW  | BH  | BSW | NH  | T  | X  |
|------|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| 5402 | exc | s   | BB | 47  | 41  | 27  | n/a | 12  | 6   | n/a | n/a | 8  | PC |
| 3130 | exc | s   | On | 35  | 24  | 24  | 17  | n/a | 6   | 25  | 5   | 7  | PC |
| 3033 | tri | cc  | On | n/a | n/a | 43  | n/a | 21  | 16  | n/a | n/a | 9  | BC |
| 3267 | tri | cc  | On | n/a | n/a | 48  | n/a | 28  | 21  | n/a | n/a | 11 | BC |
| 2570 | exc | s   | On | 44  | 37  | 22  | 19  | n/a | 5   | n/a | 2   | 7  | BC |
| 3109 | tri | cv  | BB | n/a | n/a | 18  | 16  | n/a | 8   | 22  | 5   | 7  | PC |
| 2586 | tri | s   | On | 43  | 32  | 17  | n/a | 12  | 11  | n/a | n/a | 7  | BC |
| 4839 | tri | cv  | On | 38  | n/a | 19  | n/a | n/a | n/a | n/a | n/a | 8  | BC |
| 2571 | n/a | s   | On | n/a | n/a | N/a | 16  | n/a | 8   | 25  | n/a | 5  | BC |
| 4001 | exc | cc  | On | 80  | 64  | 35  | 20  | n/a | 10  | 28  | 6   | 7  | BC |

Key: exc=excavate; tri=trinagular; s=straight; On=Onondaga; KP=Kettle Point; BS=blade shape; BSS=base shape; RM=raw material; L=Max. length; BL=blade length; BW=blade width; IW=inter-notch width; BH=base height; BSW=base width; NH=notch height; SW=stem width; T=max. thickness; X=cross-section; PC=plano-convex; BC=bi-convex.

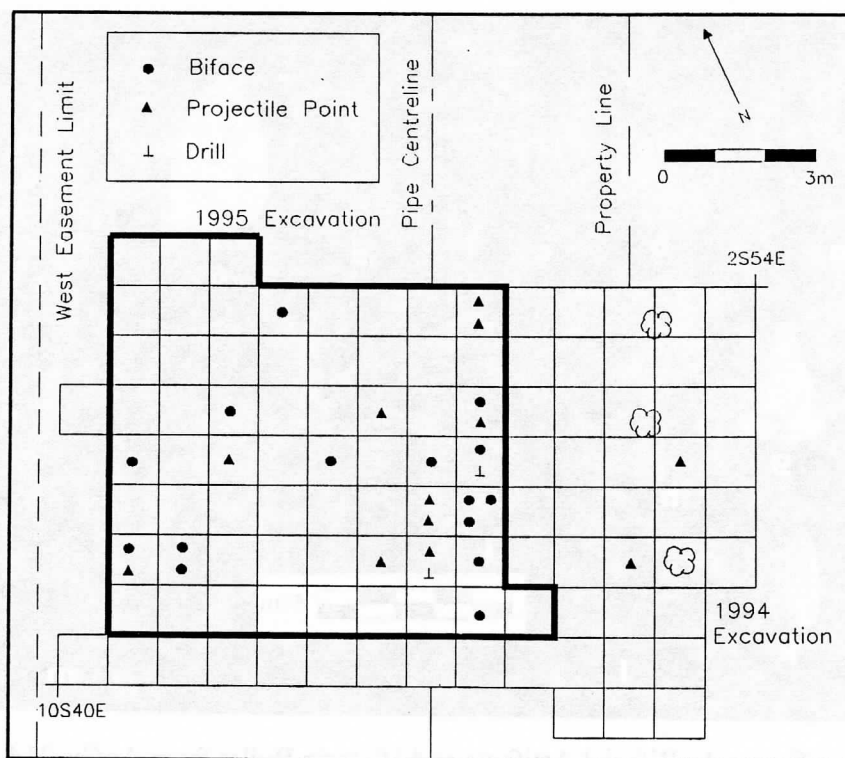


**Figure 3. Distribution of Bifacial Tools at AgGx-214.**

Utilized flakes and scrapers, representing approximately 0.9% percent of the entire artifact sample, indicate that chert tools were used by the site's occupants for domestic activities, such as hide, food and tool processing (Figure 5:c-i, Figure 6). While most of these tools are expediently made utilized flakes, a few formal end- and side-scrapers were recovered. None of the tools are diagnostic of any particular prehistoric culture, although the small, formal, often bifacial, end scrapers (Figure 5:c-e), are like those associated with the Late Archaic "Smallpoint" or Early Woodland "Meadowood" traditions (Ellis et al 1990:109-110; Spence et al 1990).

Three chert core fragments were recovered in the 1995 excavations (Figure 6), and of these two were of Bois Blanc formation chert, while the third was of Onondaga chert. Cores were brought to the site by its occupants to furnish a supply of stone raw material for chipped lithic tools. These examples represent the 'exhausted' state of such chert supplies. The relatively small number of cores from the excavations may indicate that primary chert reduction was not a main activity, and this theory is supported by the large percentage of late-stage debitage (flake fragments and secondary flakes).

Another lithic category found at the site is fire-cracked rock (FCR). Although FCR is not the product of stone tool making, it is often caused by the human-produced fires associated with camping and food preparation (cooking). FCR usually consists of imported heat-fractured cobbles, which have often been moved to specific locations (i.e. hearths). FCR was found throughout the site, and was not found in any concentrations that may have indicated former hearth areas (Figure 8).

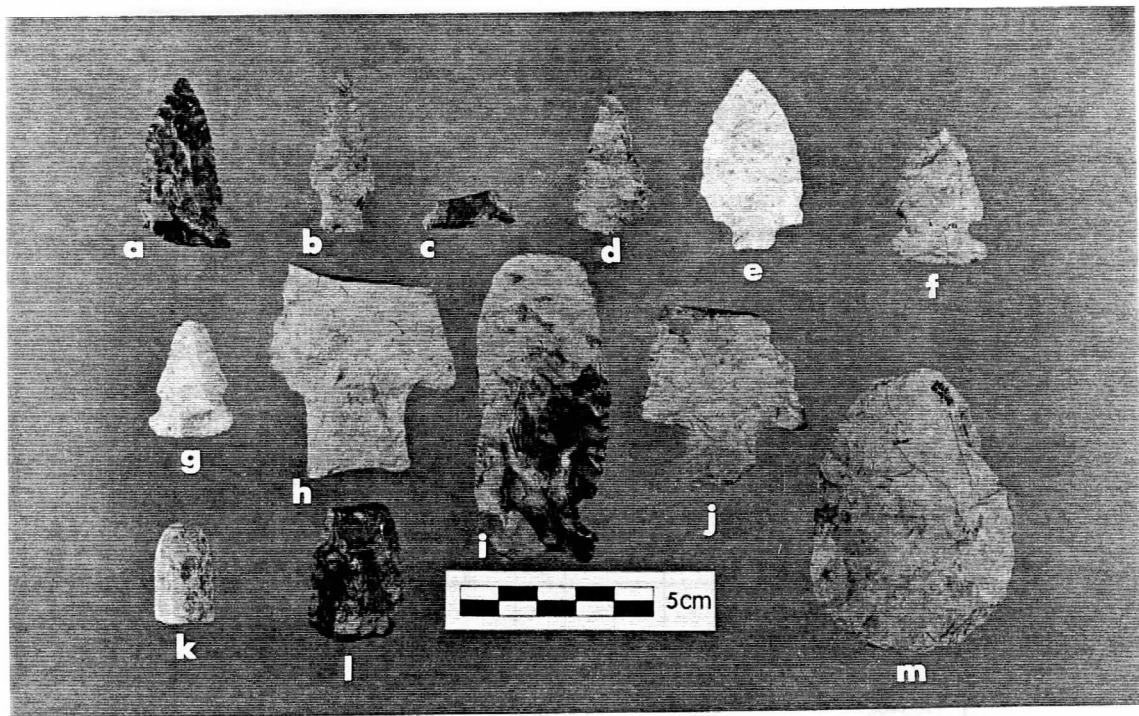
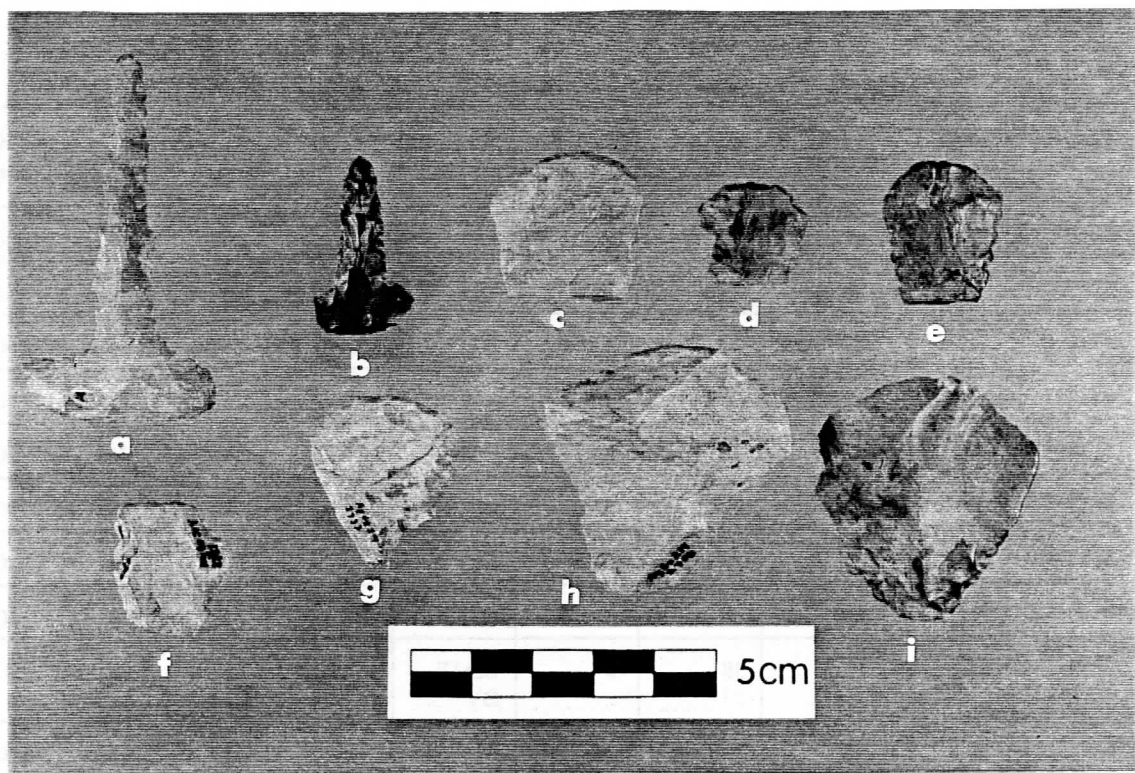


Figure 4. Bifacial Artifacts and Historic Bullet from AgGx-214



Figures 5. Drills and Scrapers from AgGx-214

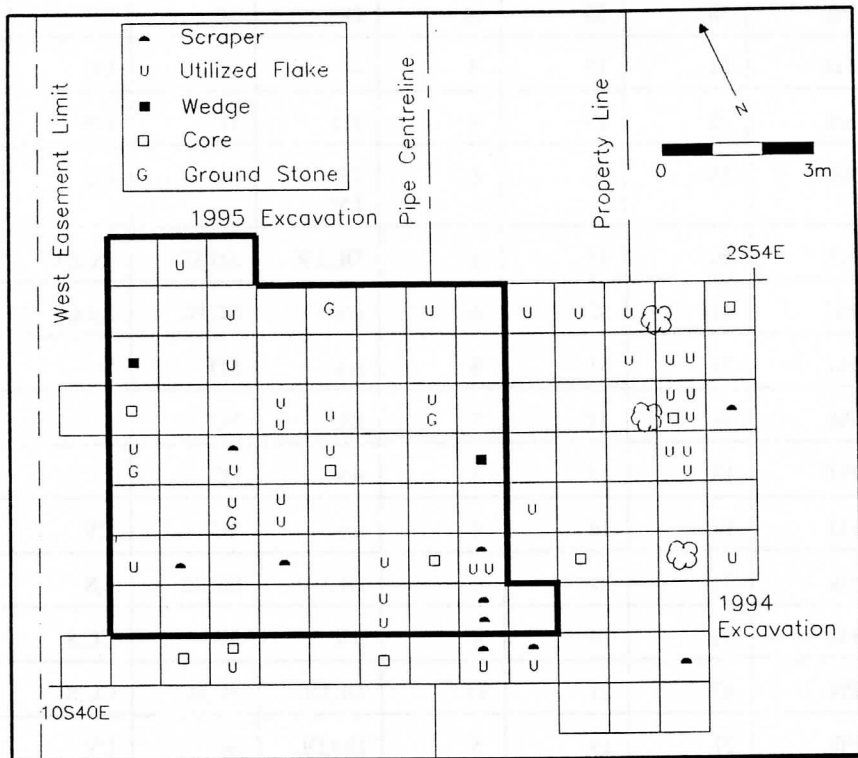


Figure 6. Distribution of Flake Tools, Cores and Ground Stone Tools at AgGx-214

**Table 3. Johnson Flats (AgGx-214) Scrapers and Utilized Flakes**

| Cat. # | Flake type | L  | W  | T  | Use-wear     |              |        |          | Chert type |
|--------|------------|----|----|----|--------------|--------------|--------|----------|------------|
|        |            |    |    |    | Loc          | Type         | Shape  | Length   |            |
| 2750   | Pfk        | 41 | 40 | 15 | DD           | SC           | CV     | 58       | On         |
| 2733   | Sfk        | 28 | 24 | 4  | DD           | SC           | CV     | 35       | On         |
| 4719   | Bif        | 23 | 20 | 4  | --           | SC           | CV     | 25       | On         |
| 4838   | Bif        | 12 | 18 | 4  | --           | SC           | CV     | 23       | On         |
| 5158   | Bif        | 24 | 25 | 6  | --           | SC           | CV     | 28       | On         |
| 4857   | Bif        | 21 | 23 | 8  | --           | SC           | CV     | 19       | On         |
| 4884   | Fkf        | 38 | 19 | 6  | LV           | FC           | SV     | 22       | On         |
| 4599   | Fkf        | 28 | 18 | 12 | D-           | SC           | CC     | 13       | On         |
| 4854   | Sfk        | 40 | 38 | 5  | DD,DL,<br>DV | FC,SC,S<br>C | S,CV,S | 13 30 12 | On         |
| 4598   | Sfk        | 35 | 30 | 6  | DL           | FC           | CV     | 45       | On         |
| 4214   | Sfk        | 47 | 23 | 5  | LV           | FC,CC        | S,S    | 30 14    | On         |
| 4158   | Sfk        | 52 | 35 | 4  | DD,LV        | SC,FC        | CV,CC  | 24 38    | On         |
| 4139   | Pfk        | 58 | 50 | 12 | DL           | SC           | CC     | 40       | On         |
| 2735   | Fkf        | 21 | 17 | 4  | --           | FC           | CC     | 8        | On         |
| 5319   | Sfk        | 28 | 19 | 3  | PD           | FC           | CV     | 28       | On         |
| 4692   | Sfk        | 35 | 20 | 6  | DL<br>LV     | SC           | CV     | 11       | On         |
| 4691   | Sfk        | 59 | 33 | 5  | DL,LV        | SD,SD        | CC,CC  | 5 15     | On         |
| 4002   | Fkf        | 41 | 32 | 6  | n/a          | SC,FC        | S,CC   | 25 11    | On         |
| 2830   | Fkf        | 73 | 31 | 8  | n/a          | SD           | S      | 9        | On         |
| 2734   | Pfk        | 49 | 37 | 7  | DL           | FC           | S      | 39       | On         |
| 4786   | Fkf        | 13 | 13 | 3  | n/a          | FC           | S      | 8        | On         |
| 4798   | Fkf        | 17 | 16 | 4  | n/a          | SC           | CV     | 13       | On         |
| 4140   | Sfk        | 31 | 31 | 5  | DL,LV        | SC,SC        | S,S    | 18 21    | On         |
| 5364   | Fkf        | 32 | 16 | 4  | n/a          | SD           | CC,S   | 23 11    | On         |
| 2854   | Pfk        | 43 | 21 | 11 | DL,DL        | SC,SC        | CC,S   | 23 31    | On         |
| 2751   | Pfk        | 21 | 19 | 5  | DD,DL        | SC           | CV     | 23       | On         |

Key: L=max. length; W=max. width; T=max. thickness; Loc=Location;; sfk=secondary flake; pfk=primary flake; sh=shatter; LV=lateral ventral; DL=dorsal lateral; DD=distal dorsal; DV=distal ventral; PD=proximal dorsal; SC=steep continuous; FC=flat continuous; SD=steep discontinuous; S=straight; CC=concave; CV=convex; On=Onondaga; BB=Bois Blanc. All measurements in millimetres.

**Table 4**  
Johnson Flats (AgGx-214) Cores (1995)

| Cat. # | Core type | Length | Width | Thickness | Chert type |
|--------|-----------|--------|-------|-----------|------------|
| 5280   | block     | 29     | 25    | 11        | Onondaga   |
| 4243   | block     | 60     | 28    | 33        | Bois Blanc |
| 3201   | block     | 50     | 40    | 16        | Bois Blanc |

Measurements in millimetres.

Four rough stone tools were recovered during the 1995 excavations (Figure 6). These include two grinding stones ("manos"), probably used to grind plant foods, such as nuts. One of these is made of granite and has some wear on one surface, and measures 141x122x86mm. The other specimen is of schist, measures 98x87x52mm, and it too has wear on one surface only. Also found were two hammerstones (48x42x32mm and 39x34x31mm) of granite, which were undoubtedly used for chert tool production at the site.

### Ceramics

Another category of diagnostic artifacts found at the site is ceramics. About eight percent of the recovered material consists of prehistoric ceramic vessel fragments (sherds). As noted in previous reports (ARA 1994a; 1994b; Parker 1995), the ceramics found all seem to be similar in both manufacturing techniques and decorative motifs. No rim sherds were recovered, but decorated neck and body sherds show "cord roughening" and a lack of incising. Based on this, and the fact that many coil breaks were found, the sample appears to be of late Middle Woodland or very early Iroquoian manufacture. This period is represented by the "Saugeen"-like or early "Princess Point" complexes (Finlayson 1977; Stothers 1977; Fox 1990). The Saugeen period is dated to circa 300 B.C. to A.D. 700 (Spence et al 1990), while the transitional Princess Point culture is dated to ca. 600-900 AD (Fox 1990:171).

Some concentrations of ceramic sherds were found in the excavated squares at the site (Figure 7). No sherds were found below a depth of 45 cm below the surface. Although the presence of ceramics indicates a Middle Woodland complex occupation, no diagnostic lithics of this period were found (i.e. projectile points). The fact that most of the ceramic sherds were found in the upper levels of the cultural strata at the mitigated portion of the site indicates that the site may have been occupied first by Archaic period people, then later by Middle Woodland period people. The Middle Woodland period is known for its introduction of several traits, including (but not limited to) plant cultigens, establishment of large seasonal base camps, and an evolutionary development from coil-made ceramics to paddled, cord-marked and incised ceramics (Spence et al. 1990; Fox 1990:172).

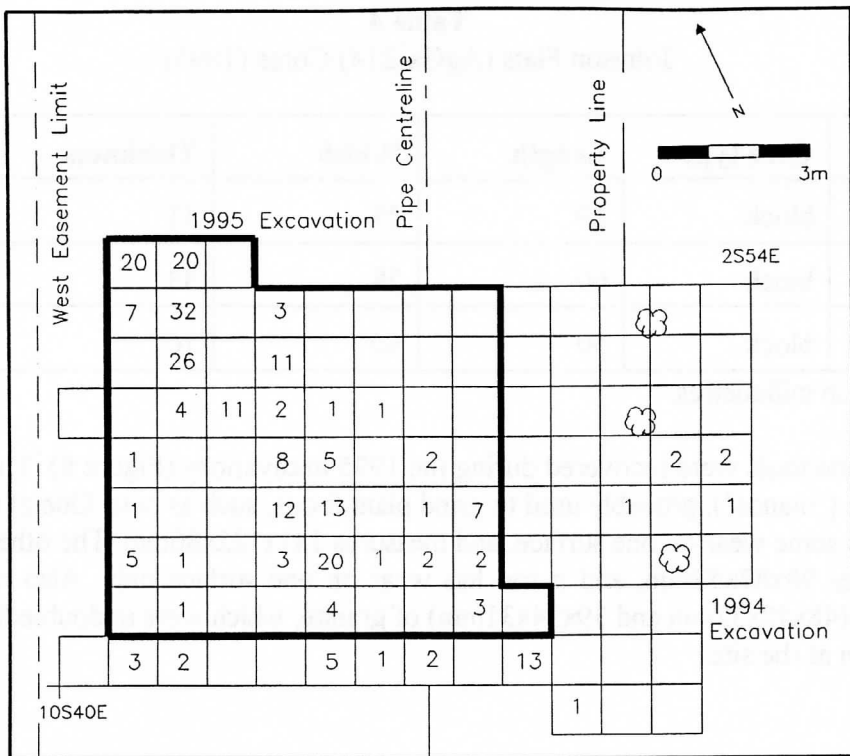


Figure 7. Distribution of Ceramics at AgGx-214

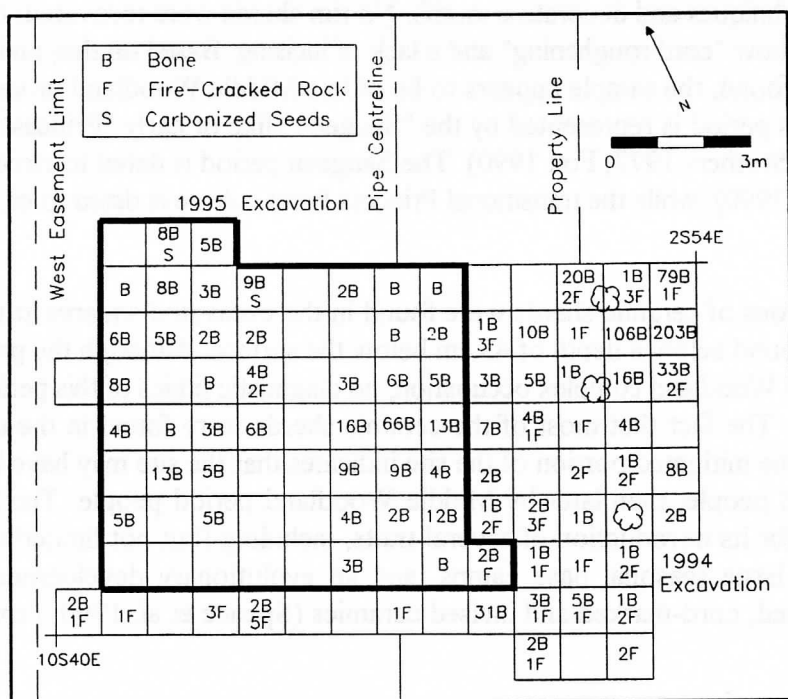


Figure 8. Distribution of Floral and Faunal Remains and Fire-Cracked Rock at AgGx-214

**Table 5**  
Johnson Flats (AgGx-214) Ceramics (1995)

| Cat. # | Thickness<br>mm | Max Grit<br>Size mm | Colour        |               | Decoration  |                             |
|--------|-----------------|---------------------|---------------|---------------|-------------|-----------------------------|
|        |                 |                     | Interior      | Exterior      | Interior    | Exterior                    |
| 4742   | n/a             | 3                   | light brown   | n/a           | cord marked | n/a                         |
| 4492   | 13              | 4                   | light brown   | pinkish brown | none        | Smoothed over cord markings |
| 2834   | 10              | 1                   | black         | light brown   | none        | None marked                 |
| 4491   | 11              | 2                   | light brown   | orange        | cord marked | None                        |
| 4422   | 12              | 4                   | pinkish brown | orange        | none        | none                        |
| 4493   | 11              | 45                  | light brown   | light brown   | none        | none                        |
| 2690   | 12              | 4                   | light brown   | pinkish brown | none        | none                        |
| 2689   | 11              | 3                   | light brown   | light brown   | cord marked | none                        |
| 4195   | 10              | 4                   | orange        | light brown   | none        | wiping                      |
| 5369   | 12              | 5                   | pinkish brown | pinkish brown | cord marked | wiping                      |
| 3202   | n/a             | 4                   | n/a           | pale orange   | n/a         | cord marked                 |
| 3203   | 11              | 2                   | pinkish brown | light brown   | none        | none                        |
| 4820   | 10              | 3                   | dark brown    | dark brown    | cord marked | none                        |

### Historic Artifact

One large historic bullet was recovered (Figure 4:k). It is a 55-calibre “Snider’s” round, an early, large bore bullet introduced after 1850 as one of the first breech loaded munitions.

### Floral and Faunal Remains

Approximately 9% of the recovered materials at the site include faunal remains (animal bone), both in burnt (calcined) and unburnt condition (Figure 8). Floral remains were restricted to small fragments of charcoal found in the initial levels of artifact-bearing strata, and none of these have yet been analysed for tree identification, although nutshells were identified (hickory). On the other hand, the

1994 faunal remains were analysed by Rosemary Prevec (ARA 1994b:Appendix 3), and until analysis is completed it is suggested that the same species were found in the 1995 excavations. Throughout the excavation of the site bone remains were found in both calcined and unburnt condition, and it can be generally said that the unburnt bone was found in the upper cultural stratum, while the calcined bone was found in the lower cultural stratum. Large mammal bone was identified in the field, and the recovery of teeth from white-tailed deer was noted in many of the squares. Also recovered was the tip of an antler tine, which may have been used by prehistoric occupants as a tool (i.e. pressure flaker for stone tool production).

The 1994 analysis of the faunal remains by Prevec resulted in the positive identification of the following mammal species: white-tailed deer, racoon, and muskrat. The only fish identified was sucker. Given the site's proximity to the Grand River, it is somewhat unusual to find so few fish remains. Perhaps the mitigated portion of the site was occupied during the fall and winter months, when deer and racoon would be available for use as both food and hide. This is similar to the findings at the Sibelius site, a Middle Woodland site on the Thames River floodplain west of London, where deer remains dominated the assemblage (Fox 1982). The majority of deer elements found at AgGx-214 were found in a burnt condition, in the deepest cultural stratum, and may indicate that Early to Middle and Late Archaic occupants were exploiting the local deer and racoon populations during the fall and winter months. Today, the early fall period is marked not only by the abundance of deer and racoon, but also by the availability of many nuts from butternut, black walnut, acorn and hickory trees in the vicinity. Thus, the site would have been ideal for occupation during the fall and into the winter.

It is also noted that the unburnt, upper level faunal remains contained "intrusive domestic" species, namely pig.

## **Discussion and Conclusions**

The 1995 work at Johnson Flats resulted in the recovery a modest sample of artifacts associated with at least two separate prehistoric occupations: Middle to Late Archaic (ca. 7500 to 2800 BP), and late Middle Woodland (ca. 1 BC-AD 800). The plotted locations of artifacts and faunal remains assisted in the study of this site. For example, more than one concentration of ceramics and/or debitage was found, perhaps indicating the location of activity areas or subsurface features. The concentrations of lithics are definitive indications of certain activities, such as tool resharpening. It is possible that the sediments that comprise the mitigated area (especially the upper cultural level) contain artifacts (i.e. ceramics) and ecofacts (i.e. bone) which are in a secondary context, that is redeposited by river action. The lower cultural level contained very distinct concentrations of lithics, indicating chert reduction sequences such as biface thinning (i.e. 46E7S, where there was a preference for Bois Blanc (Haldimand) chert). By associating these concentrations with nearby diagnostic projectile points, it is suggested that the 1995 excavations revealed a series of lithic activity areas from the Middle Archaic (Stemmed, Brewerton), and Late Archaic periods (Narrow and Broad point traditions).

The results of the 1994 investigations (ARA 1994b) and the 1995 work should be briefly compared to bring some insight on what has been recovered so far. In quantitative terms, the 1994 work yielded 2,516 artifacts from 61 one-meter units, while in 1995 there were 2,913 artifacts from 60 units. In

the lithics categories, there was an increase in the percentage of flake fragments (5%) and secondary flakes (10%) between 1994 and 1995. Within these two debitage types there was a marked increase in Bois Blanc (Haldimand) chert percentages, with Bois Blanc flake fragments increasing 60% and secondary flakes up 44%. This gain is the result of the recovery of dense Bois Blanc (Haldimand) chert chipping stations during the 1995 excavations. The frequency of unmarked body sherds was up 6% in 1995 from our 1994 work. Also, it is noted that calcined bone counts were down 13% between the two seasons of excavation.

While the earlier work resulted in the discovery of thick clusters of calcined bone, in 1995 dense debitage "features" were found. A greater number of diagnostic projectile points in 1995 did not change our chronological placement of the occupations ( Middle Archaic and Late Archaic). A more varied collection of point types from these periods certainly supports our 1994 interpretations of cultural affiliation. The lack of typical point types from the ceramic periods (i.e. Middle Woodland or Princess Point) is a bit of a mystery, unless one could argue that some of the points found are variants of types such as "Saugeen". As for ceramics, the 1995 sample was disappointing, consisting of dozens of small micro-sherds, with some evidence of coil breaks, but with no real surface decoration. In considering the ceramic attributes recovered from both years, it is suggested that the Woodland occupation of this part of the site is slightly earlier than first thought, perhaps Middle Woodland rather than Princess Point.

Faunal analysis in 1994 resulted in the identification of deer, racoon, muskrat, and sucker. The deer remains continued to be the most common, and it is suggested that the portion of the site mitigated in 1995 represents a fall to winter occupation.

Johnson Flats is a huge site, possibly over one hectare in size, and the somewhat fortuitous opportunity to revisit the site in 1995 has yielded additional data which assists in our understanding of the pre-Iroquoian occupation of the lower Grand River area. Perhaps one day the pipeline corridor, which resulted in the site's discovery, will be expanded and more of the site will require excavation. In these times of government and university fiscal restraint it is doubtful that a research study will be funded for the site, but the current landowners do not plan to plough the site, thus preserving its material culture for the future.

## **Acknowledgements**

This project was possible because of the support of Bill Wachsmuth of Union Gas Limited, and was made most pleasant by the owners of the property, Robert and Debbie Johnson. The field crew consisted of the writer, Carolyn Routledge, Shawn Standfast, Dwayne Standfast, Jonathan Haxell and Adrienne Roberts.

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